

Correlation of Anthropometric Measurements and Basketball Skill Performance

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Abstract

Anthropometric measurements affect effectively in the level of athletic achievement during the competitions, as there is a relationship between measurements and physical multi-level performance skills, the coach and those preparing for a software selection and choice of players must put into account, firstly the measures After verifying the validity of the measurements used lengths and circumferences.

Preparing the player physically for the sports activity demands is one of the major responsibilities of the training process that leads the progress of the player's training status to reach higher levels in the performed sport. Literature review indicated that muscular ability, speed and endurance speed are the special physical fitness components relevant to Basketball.

Procedure: To know the correlation between selected anthropometric measurements and basketball skill performance 80 university players were selected and standardized basketball skill tests for measuring dribbling and shooting ability were conducted.

Statistical Technique: The data collected was tested with statistical technique product moment correlation.

Introduction

Anthropometric measurements affect effectively in the level of athletic achievement during the competitions, as there is a relationship between measurements and physical multi-level performance skills, the coach and those preparing for a software selection and choice of players must put into account, firstly the measures After verifying the validity of the measurements used lengths and circumferences.

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An Anthropometric measurement has wide application as one of the essential parameters consist the selecting diagnostics of any game or sport. The Anthropometric indices aided in evaluating potentiality for athletic performance.

Many studies have been done on all the aspects of sports performances. Numerous physical educationists and sports scientists are engaged in search of latest

dimensions for better performances. It is because of their constant efforts that the records of the performance, in all the games and sports, are being broken from time to time and new records are being established.

Numerous research studies have given the characteristics of various sportsmen for specific events and relationship of body measurements with physical fitness of specific games and sports, to assist in the talent selection of sportsmen. Correlations between the anthropometric measurements and performances, have led to more systematic examination of the physical requirements, essential to attain excellent performance in the competition. The ultimate aim is to investigate optimal indices of the physique, for the specific sports disciplines and events as well as the presentation of morphological differences occurring among them. Hence the present investigation has made an attempt to find out the relationship between the selected anthropometric measurements and basketball playing ability.

Procedure

To observe the role of anthropometric measurements in basketball playing ability of male players, ninety university level Basketball men players were selected as subjects by using random sampling technique. To assess the playing ability of basket ball players Field Goal Speed Test, Throw for Accuracy and Dribble Test were selected as performance variables and as Anthropometric variables Height, Weight, Forearm circumference, Upper arm girth, Chest girth, Thigh girth, Calf girth, Arm length and Leg length were selected. Data were collected by using standard procedure.

Statistical Analysis : The data collected from performance tests and anthropometric measurements were analyzed by using coefficient of correlation to find out the relationship between them.

Results: With the limitation of the study, the selected Anthropometric Measurements are positively correlated with dribbling and shooting ability. The result of the study shows that the selected anthropometric variables contribute and tend to improve the basketball skill performance

Results and Discussion

Table – 1. Relationship between dribbling ability and anthropometric measurements

Sl. No.	Variables	Coefficient of Correlation
1	Dribbling Ability and Height	0.382*
2	Dribbling Ability and Weight	0.494*
3	Dribbling Ability and Forearm	0.235*

	circumference	
4	Dribbling Ability and Upper Arm Girth	0.318*
5	Dribbling Ability and Chest Girth	0.219*
6	Dribbling Ability and Thigh Girth	0.492*
7	Dribbling Ability and Calf Girth	0.248*
8	Dribbling Ability and Arm Length	0.286*
9	Dribbling Ability and Leg Length	0.465*

*Significance at the 0.05 level

The above table number 1 indicates the Dribbling Ability positively correlated to Height=0.382, Weight=0.494, Forearm Circumference=0.235, Upper arm Girth=0.318, Chest Girth=0.219, Thigh Girth=0.492, Calf Girth=0.248, Arm Length=0.286, Leg Length=0.465. Therefore, it is evident that Height, Weight, Forearm circumference, Chest Girth, Thigh Girth, Calf Girth, Arm Length and Leg Length contributed to Throwing Accuracy.

Table – 2. Relationship between field goal ability and anthropometric measurements

Sl.No.	Variables	Coefficient of Correlation
1	Field Goal Ability and Height	0.560*
2	Field Goal Ability and Weight	0.278*
3	Field Goal Ability and Forearm circumference	0.604*
4	Field Goal Ability and Upper Arm Girth	0.737*
5	Field Goal Ability and Chest Girth	0.314*
6	Field Goal Ability and Thigh Girth	0.376*
7	Field Goal Ability and Calf Girth	0.264*
8	Field Goal Ability and Arm Length	0.371*
9	Field Goal Ability and Leg Length	0.513*

*Significance at the 0.05 level

The above table indicates the Shooting Ability significantly related to Height=0.560, Weight=0.278, Forearm Circumference=0.604, Upper arm Girth=0.737, Chest Girth=0.314, Thigh Girth=0.376, Calf Girth=0.264, Arm Length=0.371, Leg Length=0.513. Therefore, it is evident that Height, Weight, Forearm circumference,

Chest Girth, Thigh Girth, Calf Girth Arm Length and Leg Length contributed to Shooting Ability.

Analysis of data revealed significant relationship of Dribbling ability to Height (= $r = 0.382^*$), Weight (= $r = 0.494$), Forearm Circumference (= $r = 0.235$), Upper arm Girth (= $r = 0.318$), Chest Girth (= $r = 0.219$), Thigh Girth (= $r = 0.492$), Calf Girth (= $r = 0.248$), Arm Length (= $r = 0.286$) and Leg Length (= $r = 0.465$).

Analysis of data revealed significant relationship of Shooting Ability to each of the following Height (= $r = 0.560$), Weight (= $r = 0.278$), Forearm Circumference (= $r = 0.604$), Upper arm Girth (= $r = 0.737$), Chest Girth (= $r = 0.314$), Thigh Girth (= $r = 0.376$), Calf Girth (= $r = 0.264$), Arm Length (= $r = 0.371$) and Leg Length (= $r = 0.513$).

Conclusion

With the limitation of the study, the selected Anthropometric Measurements are positively correlated with dribbling and shooting ability. The result of the study shows that the selected anthropometric variables contribute and tend to improve the basketball skill performance.

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